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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,354	09/16/2003	Joachim Schnabel	BGJ-101	1603

44590 7590 06/23/2005

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EXAMINER
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EASTHOM, KARL D

ART UNIT	PAPER NUMBER
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2832

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/663,354

Applicant(s)

SCHNABEL ET AL.

Examiner

Karl D. Easthom

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-6 and 8-23 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 1 and 21, it is not clear where "the adjacent resistor" is where one is not defined or introduced into the claim such that antecedent basis is lacking. In claim 9, it is not clear to what "displaced alternately to a front end and to a rear end" where it is not clear to what the front end or the rear end refers. In claims 11-12, it is not clear what "smaller than ... of a breadth or width, of a length", since a breadth or width of a length refers to different dimensions.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6 and 9-23 rejected under 35 U.S.C. 102(b) as being anticipated by Kant. Kant discloses the claimed invention at Fig. 3 with resistors 21-23 and well 15. The adjacent resistor is the resistor 22. Each resistor is spaced laterally. Resistor 21 is displaced longitudinally from the right hand end of adjacent resistor 22, while resistor 23 is displaced from resistor 22 to the right. The substrate is a well where claim 3 of Kant discloses a n type with p type resistor diffusion. See also p-type diffusion disclosed for an n-type layer at col. 1, lines 39-35, and col. 2, lines 35-36 – diffusion into a predoped epitaxy layer. That is (as Iniewski defines it, see well 3 at Fig. 1, the well is an

opposite type doped region like that of Kant.) The latter meets claim 15. For claims 18-19, a parallel device is disclosed at col. 3, lines 30-35. For claims 2-6, the resistors are substantially the same as claimed where the term is broad and without definition. For claim 9, the displacement is as seen where ends are not defined, so that the resistors are displaced to each of its own ends, for example. For claim 10, resistors 22 and 23 meet the claim, where "approximately" is broad. For claims 11-12, and 22-23, the distance is met in terms of length where  $b$  appears less than one fifth than the length 22 or the length is disclosed as varied as compared to the distance, so that a longer resistor with the minimum distance is contemplated, col. 2, lines 60-65. For claims 13-14, the doping is relative and met by claim 3 of Kant. For claims 16 and 20, the MSI, microprocessor circuits, memory, or SSI are deemed signal driver devices since they produce signals and the whole circuit is connected together.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6, and 8-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. in view of Iniewski et al. or Kant. Ono discloses, except explicit mention of all the resistors in a well, the claimed invention at Figs. 4-5 where the lateral direction is up and down in the figures and the longitudinal direction is the direction left to right, and each adjacent resistor  $R$  is offset longitudinally. Iniewski discloses employing a

plurality of resistors in a single well at Fig. 4 in order that the resistors be isolated at col. 3, lines 40-65. Ono discloses replacing prior art resistors such as those at Figs. 3A-3B that are similar to the resistors of Iniewski, in order to make the resistors more densely packed, further suggesting the combination, see col. 5, lines 35-51. Ono also discloses that the resistors are all in the same area, col. 5, lines 20-35, thus further suggesting the same well. Kant also discloses at claim 3 and col. 3, lines 25-45 employing resistors in the same well to save space so that such a well would have been obvious. In claims 2-6, there are at least five resistors of substantially the same length, width, resistance structure, and depth. In claim 8, Figs. 4-5 show at least five resistors. In claim 9, the resistors are displaced alternately to a front end and a rear end where two of them align near the front and ends, such as the two in the middle, or they are displaced to their own ends. For claim 10, the top two resistors in the middle meet the claim where a first resistor where the R points is displaced approximately a length of a second resistor where the W points. Claim 9 is met for those two resistors also. In claims 11-12, the distance is smaller than one fifth of a length for example. For claims 13-14, the resistors are relatively strongly or weakly doped as compared to a contact or substrate, where they are diffusion resistors, col. 2, lines 55-60, as that is how diffusion resistors are made, Iniewski discloses n-type doping at col. 3, lines 55-65, so that it would have been obvious to employ n-type diffused resistors since there are only two types, p or n. In claim 15, the resistors are diffusion as noted. In claim 16, the drivers are disclosed at col. 5, lines 1-20. In claim 17, the pads are the CW contact windows as noted at the top of col. 4. In claims 22-23, the distances are smaller than

one fifth as depicted at Figs. 4-5. For claims 18-20, it is well known that connecting resistors in parallel lowers the total resistance, the examiner taking Official Notice to the effect, so that connecting the resistors in parallel or series would have been obvious in order to alter the resistance in the desired manner.

7. Applicant's arguments filed 5/12/5 have been fully considered but they are persuasive only as to the removed rejection or are moot. Applicant argues that Kant refers to headless resistors so cannot anticipated the claim. The remark is not understood since whether they are headless is not material to the claims. Applicant states the rejection is not understood as to how Kant discloses a well of opposite conductivity type. Claim 3 of Kant discloses the limitation as noted above. Further, only a well is claimed. See also p-type diffusion disclosed for an n-type layer at col. 1, liners 39-35,

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl D. Easthom whose telephone number is (571) 272-1989. The examiner can normally be reached on M-Th, 5:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Karl D Easthom  
Primary Examiner  
Art Unit 2832

KDE